RECREATING AN ENTREPRENEURSHIP EDUCATION EXPERIENCE IN A VIRTUAL SPACE: THE COVID -19 CASE

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ABSTRACT

Students and educators alike were rushed to transition into an unknown online learning environment as the Covid-19 crisis caught the world by surprise. The experiential based field of entrepreneurship undergraduate studies faced an additional challenge of transitioning from unique hands-on, real-world learning to an equivalent online experience. This exploratory paper discusses initial insights from the transition period of face-to-face classes to synchronous Zoom sessions. This paper presents practices for online learning via zoom through insights gained from students' surveys pre-semester as well as a self-reflection process post semester. Those include thoughts and reflections for re-constructing experiential learning of entrepreneurship studies during these challenging times and in the evolving technological future of education.

INTRODUCTION

In March 2020, the Israeli and US governments issued a lockdown order to allow for social distancing due to Covid-19. Most academic institutions in the US and all Israeli universities and colleges decided to transfer Spring 2020 semester courses into a remote setting to follow new regulations. Courses were moved into an online setting and administered *via* synchronous Zoom sessions to adjust to the new situation. This paper presents the results of two surveys focused on students' expectations and suggestions regarding the Zoom learning experience: a preliminary survey held in April 2020, when first transitioning online, and a post-semester study administered in August 2020.

LITERATURE REVIEW

Entrepreneurship Education (EE)

Entrepreneurship education fuels economic wellbeing by adding real value to ongoing student insights. This leads to the manifestation of sustainability in terms of establishing a lasting market presence in specific areas of change and opportunity for growth as identified through careful training practices (Maaravi et al., 2020)

Definitions of "*entrepreneurship education*" include passing on necessary entrepreneurial skills and concepts to identifying specific, viable business opportunities and further encouraging elevated levels of self-confidence. Such discipline enables prospective entrepreneurs to pursue related personal goals and achieve overall business market advantages (McMullan et al., 2002).

McMullen et al. (McMullan et al., 2002; Mcmullan & Long, 1987) refer to such skill-building activities as pertaining to leadership methodology scheme development, new product design protocol identification, development of applied creative thinking processes, and adapting business procedures to the introduction of technology innovations (Mcmullan & Long, 1987; Shelton, 2011; Ratten, 2020; Ratten & Jones, 2021).

Entrepreneurial education may include activities that allow students to gain direct experience with entrepreneurial practices through "*learning by doing*" (Krecar & Coric, 2013). Another substantial emphasis in entrepreneurial studies is on teamwork (Swart & Harcup, 2012). As such, the entrepreneurial education curriculum emphasizes practical exercises that build skills by teaching how to navigate uncertainty efficiently, introduce creative solutions, accommodate failure and execute change (Bakhshi et al., 2017; Pricewaterhouse Coopers, 2017).

Entrepreneurial studies emphasize practical and experiential learning, unlike other disciplines and subjects that focus on communicating information and gaining concrete knowledge. The hands-on learner develops specialized technical expertise, gains intuitive market presence and remains flexible toward change through the use of optimized business practices by seeking, using or developing innovative tools. Such tools provide ways to use personal values and enhance individual development by relating experiences to fulfilling practical tasks. (Maaravi et al., 2020) Is it possible for such an intricate experience to be transferred into a remote environment such as Zoom? Can we maintain an ongoing, unique educational and entrepreneurial experience as we move into the online environment? What is the overall impact on virtual entrepreneurial education?

Entrepreneurship Education Online and Pre-covid MOOC

Few papers address digital entrepreneurship education, and most of them examine the case of a Massive Open Online Course (MOOC) (Al-Atabi & DeBoer, 2014; Cirulli et al., 2016; Vorbach et al., 2019). MOOCs are online courses aimed at large-scale participation and open access. Researchers conclude that MOOC is a suitable platform for entrepreneurship learning and teaching "*as it provides tools to enable students' collaborative learning as well as improve individuals' affective key entrepreneurial aspects such as such opportunity recognition and resource acquisition*" (Al-Atabi & DeBoer, 2014). Furthermore, students' responses point out several advantages of videos over live lectures like the ability to watch, pause and rewind alternative representations of information (Vorbach et al., 2019). However, MOOCs seem to have critical obstacles such as lack of interaction and self-discipline to finish. Participants miss any chance to ask the lecturer to rephrase or discuss the content in real-time (Vorbach et al., 2019). In a study of entrepreneurial students, just 25% of respondents agreed they would prefer MOOC learning compared to 45% that remained interested in face-to-face classes. The current research takes a different approach and discusses implications of transferring traditional college courses originally designed for a physical environment into synchronous video platforms.

Covid – 19 and its Implications: The Rapid Transition to Online in Spring 2020

Covid- 19 forced universities to do something they didn't plan for; transfer the classroom experience online within a week, typically utilizing a Zoom video platform. This "*field experiment*" presented a challenge to the main stakeholders: students and professors. Many universities left remote instruction up to faculty discretion prior to Covid-19, as it takes practice

and skills to develop effective online materials. It also takes student practice to learn at a distance, considering differences in the ways that individual students adapt to virtual environments and tools.

The case of entrepreneurship education is especially interesting since it has been argued that entrepreneurship cannot be taught with traditional methods (Lobler, 2006; Vorbach et al., 2019). Entrepreneurship education teaches tools and skills with active knowledge building as opposed to direct knowledge acquisition-only based disciplines or theory. Entrepreneurial study focuses on acquiring practical knowledge by hands-on experience, real-life engagement and multiple "*learning by doing*" components. Thus, the question we aimed to explore was, how will remote teaching methods and platforms such as Zoom provide an online learning experience to students that is as effective and more equivalent to traditional classroom approaches of the past?

This article explores student perspectives regarding the sudden transition of their entrepreneurship classes onto Zoom due to the COVID-19 crisis. We've focused on student experience, concerns and expectations at the beginning of this transitional process and performance evaluations thereafter. In April 2020, the students surveyed enrolled in two undergraduate entrepreneurship programs at two universities, one in the USA and another in Israel with similar expectations. Both programs share these relevant characteristics:

1. Emphasis upon hands-on, interactive learning

2. Students enrolled before the Covid-19 crisis and anticipated face-to-face classes (per a usual pre-Covid experience)

One of the critical student concerns demonstrated in a pre-semester Zoom meeting was that online sessions "*will not provide the energetic learning atmosphere*" they grew accustomed to in class. In preparation for an online transition, discussions were held among faculty regarding best practices to face challenges of maintaining experiential portions of entrepreneurship study. Possible solutions unique to the Zoom platform, such as polling and break-out rooms, were incorporated into the curriculum and presented in these discussions.

STUDY 1

Preliminary Study – April 2020

Both universities made a rapid, unexpected transition to exclusive online learning in the spring semester of 2020. As such, there was little time to develop syllabi and class structures apart from those already prepared for a physical classroom-based semester. We conducted an online survey among the entrepreneurship undergraduate students enrolled in entrepreneurship courses to better understand their needs and concerns following the transition.

Method

Both universities focused upon providing a strong practical entrepreneurship angle. For example, students at the Israeli university developed their first venture idea throughout the first year. This was done while exercising ideation techniques, team-building skills and customer discovery methodology (Blank & Dorf, 2020). Students in the US based university learned to apply entrepreneurship practices in a work setting by engaging with Startups and developing a comprehensive acceleration plan to fuel competitive advantage for a product, service, brand or

business within a go-to-market strategy. In a sample of 54 undergraduate respondents, 52% were female, with 73% in the age range of 19-23.

Results

55% of students who responded had never taken an online class before; 43% of the respondents were mostly concerned with their ability to concentrate during online classes "*it will be difficult to concentrate*" and additional 33% expressed their concerns regarding the learning experience "*it will not provide an energetic learning experience*".

Overall, 69% of the student respondents did not expect to be engaged with their other classmates at all.

Discussion

A variety of differences in expected learning experiences existed between students on several issues as shown by their comments and suggestions during the survey. Entrepreneurship requires a great deal of individuality and as such, opinions were based upon unique learning values and diverse objective outcomes for study. Incorporating varied insights into virtual learning planning could prove beneficial in the long run. Such examples of student recommendations for better online transfer of entrepreneurship courses to Zoom were:

- "*Make them more interactive via polls.*"
- "*Try to involve the students in some conversations, but not for too long as it might cause many others to lose focus.*"
- "Create"*micro-classes (3-8 students, 30 min) that emphasize the important parts of the lecture and leave the student group with a well-detailed assignment.*"
- "*Have the students interact with the professor as well as their fellow classmates. This will help them be more involved and concentrate more on what's being taught.*"
- "*Create collaboration and provide more guidance than normal as learning over the computer is more difficult than getting instructions in person and sitting with the professor to ask any questions.*"

Students asked to receive videos and terminology lists before class to avoid repetitive questions, pointing out that "*sending the videos will allow the Zoom meetings to be focused on discussions or questions.*" This may indicate the need for more open lesson plans and less spontaneous interactivity within the communication framework. Hands-on learners expect course information delivered as it's gathered and developed, not as part of any hidden concept to discover only through live discussion. Students want to feel prepared and engaged with a higher level of personal familiarity, pressuring instructors to do more hands-on work themselves.

The reimagining of a course requires significant effort from faculty that has been accustomed to another certain way of teaching. We suggest considering additional training focused upon "*reimagining courses*" and adjusting the entire learning experience to an online platform. Students also emphasized how deeply they felt the need for interpersonal communication, face-to-face meetings and student connections. Such comments included, "*I must have human interaction*" and "*I would try to find a way to keep the connections... School is not only about good education but meaningful connections.*" The most substantial disadvantages to learning *via* Zoom were the lack of human interaction, lack of motivation and overcoming distractions stemming from studying at home. Students reported, "*I had no motivation to study via Zoom*" and "*I felt that I have lost some courses... did not fully understand them.*" Both

universities made significant efforts to accommodate immediate student needs, and such measures were successful for the most part, but there was not as much time to prepare for the 2020 Spring semester as for the 2020-2021 Fall semester. Going into the spring semester, instructors faced a situation in which the majority of students had not taken an online course before. Students were accustomed to a hands-on, active classroom learning experience and were concerned that the online semester would not be able to replicate the "*energetic learning experience of the class*" and that it would be difficult to concentrate during "*Zoom classes*." As such, additional follow-up surveys needed to be obtained for conclusive purposes.

STUDY 2

Post Semester Survey – August 2020

Our first survey from April 2020 surfaced significant student concerns regarding the transition to a "*Zoom Semester*." Following the semester's completion in August 2020, we conducted our second survey, a qualitative exploration among entrepreneurship students to uncover deeper insights from the students' online experience of their first "*Zoom ester.*"

Method

150 undergraduate students from both Israeli and international entrepreneurship tracks at the Israeli university mentioned above participated in the online survey. This study focused on only the Israeli university to better understand a single, centralized approach to the growing need for learner compliance and develop a much broader outlook on online entrepreneurial education as a whole. The goal was to uncover deeper insights regarding best practices or strategies that contributed to a meaningful learning experience while identifying any unsuccessful approaches. We believe these insights will help develop an improved learning experience as we head into a new, fully online academic year. The previous findings enabled us to see that the transition from classroom to online education was a more complex process than expected for many entrepreneurial students. Such feedback was considered and used to improve educational practices during the transition despite time constraints and other challenges like affording greater flexibility for student participation. The surveys became a vital part of this transition and worked to establish that student guidance will determine much, if not all, of how future virtual entrepreneurial education is approached and resulting enhanced collaboration is achieved.

Results

Students agreed across the board, that Zoom classes provided greater flexibility, increased efficiency and better ease of scheduling. Recording the online Zoom sessions, also enabled an opportunity to review learning materials for students, when needed. Students reinforced these positive opinions with the following comments about Zoom's approachability in regards to significant benefits of use:

> "*Time efficiency and comfort. In my opinion there is no second to a frontal lesson experience, but it was considerably comfortable studying at home and saving the hassle of commuting to university.*"
> "*I would say the most significant benefit for me was that it was essentially not possible to be late, so I could easily guarantee that I would always be in class.*"

> "*The ability to review class recordings after the class. Even when attending class, this allows you to review things in the best way possible and do so at your own pace! Speeding up things you'd otherwise lose attention span in or reviewing a section a few times to try and grasp it best.*"

Students emphasized that maintaining a consistent course structure and including course note sharing enabled them to have increased focus on learning rather than just usual note taking in the classroom. It helped students to have an online interface that enabled the incorporation of guest speakers, facilitated taking rest breaks and enabled guided work in small teams to increase student engagement and satisfaction. These factors pointed toward the prevalent student desires to develop better freedom of use and more interactive knowledge scope. Negative factors like any lack of faculty Zoom proficiency or uncomfortable online teaching style impacted student satisfaction. Students also mentioned that personal attention beyond class hours was important for a successful outcome. The professor's availability *via* Zoom to meet with students outside the class enabled better learning experiences in regards to new and more engaging content or activities from the online group session.

Students were asked to provide a personal reflection of their experience. Responses were divided into student learning insights ranging from a negative impression, like the loss of motivation or difficulty concentrating, to empowering conclusions such as improved time management. Other positive experiences included gaining autodidactic learning abilities, an increased sense of self efficacy, the ability to adapt better to change and development of more flexible thinking skills. The findings show that for some, key success features were an opportunity to learn more about their strengths. Such strengths as an increased sense of self efficacy bolstered by new autodidactic learning skills add to their ability to adapt to change. For example, one student wrote, "*I learned that I am very self-motivated. I learned to be alone and to enjoy it, but I also realized how much fun I had on campus, how much I miss sitting with my friends and how much campus life is a once in a lifetime experience.*" Another student noted, "*I learned self-discipline. And that it is all up to me at the end of the day. How important it is to set goals (even short term) and to meet them.*"

Students gained a better perspective of the online learning experience upon completion of a full Zoom semester. Such realizations included, "*Learning through Zoom is a different method of study which requires different self-discipline. The most notable disadvantage is having to adjust to this method of study, dividing my own time correctly and avoiding procrastination. There is no university atmosphere at home - learning off-campus at your own chosen time gives room for distractions.*"

Substantial disadvantages stem from what is mostly referred to as "*Zoom Fatigue*" (Fosselin & Duffy, 2020). These include difficulties concentrating after sitting for hours in front of a screen, classes that felt too long, distractions at home and not being comfortable online enough to ask questions while participating in Zoom sessions. "*Many times, I was embarrassed to say I did not understand as everyone can see me on the computer and I don't know how many people are watching,*" stated one student. The lack of interaction, either with the professors during in-class discussions or socially with their peers, contributed to disappointing outcomes.

Students, especially international students across different time zones, found it difficult to work in teams as many of the entrepreneurship classes included group work. Those in different time zones felt as if they had to view class recordings and miss the opportunity for real time interaction. Students also mentioned a strong sense of loneliness experienced throughout the semester. A sense of disengagement from the institution itself caused students to feel they were lacking personal interaction with the faculty and emotional connections to help them through

these difficult times. A student described that "*not being able to meet the teacher after class and show them my notes and see if I am following along… the experience of being in a classroom*," was a disadvantage.

The students were asked for recommendations on creating a better virtual learning experience considering the mentioned disadvantages. Greater focus upon achieving a positive learning experience requires the use of academic best practices and relies upon prioritizing learner insights and recommendations. Most student responses continued to acknowledge a lack of dynamic interaction *via* Zoom classes during both studies.

Suggestions included dividing the class into smaller working groups or introducing pods during class through breakout rooms. Other ideas included administering polls at the end of classes to ensure that the material was clear and holding special topic workshops. One student even suggested that professors "*make the classes interactive and pre-recorded with the possibility of meeting with the teacher once in a week for questions*."

Other structural tasks seen as important were shortening class length, taking more breaks and leaving more time for student questions. Suggestions were also to divide classes into short videos and allocate discussion times to check student understanding in between the videos. Students requested a different evaluation method other than a Zoom exam and on a more personal note, charismatic in-class professors did not always perform as well online considering the emphasis upon complaints of monotone teaching voices.

Students emphasized a low tolerance for technical glitches, professors not on par with Zoom best practices, unstable internet connections and forgetting to admit students from the Zoom waiting room. Students also indicated that not requiring camera use led to a sense of isolation, since it feels like "*there is no one there to help you*." Respondents emphasized the importance of maintaining personal relationships with the professors, TA's and administration. Another suggestion was to provide an organized contact list to show who to contact for various issues they may have.

Students proposed adding project-based learning content for a more engaging experience. An example of such a response includes:

"*A common difficulty that is present is the fact that most students find it hard to stay focused within the Zoom environment. I would propose more activities that keep the students focused and engaged in the class. I would suggest random Kahoot games or possibly random pop quizzes throughout the lesson. I believe that if the students are less distracted by incorporating more engaging forms of learning it will positively influence the educational flow. I do realize that this calls for more effort and time spent preparing for classes on the professors' end of things, this could be something extra that the TAs could work on possibly*."

Another major comment regarding content direction is:

"*I would personally focus the whole major's studies on fun and exciting entrepreneurial projects that we can actually execute wherever we are right now (for example building an online business or an Instagram business). I think this would be super fun and challenging for the students at the same time and push them out of their comfort zones, as opposed to having to study long hours of information that we barely understand because we were not taught them in a proper manner on Zoom*."

CONCLUSION

Finally, there were concerns with MOOCs (Massive Open Online Courses): "*In my opinion all classes should be built as MOOCs (good ones, i.e. Udacity or edX's short videos with questions at the end/throughout) with supplemental classes by the lecturer as needed for students that still have questions. That would be my ideal online semester.*"

In summary, some but not all of the student concerns materialized into change. Some students found their strengths in being forced out of their comfort zone. They were able to find ways to better concentrate in class, resulting in a sense of empowerment. However, most students agree that the course structure and dynamics online should differ from the in-class experience.

LIMITATIONS

Our surveys included entrepreneurship undergraduate students before and following the first Zoom semester studies. The preliminary study was based on multiple unknowns as participants expressed unfamiliarity with the Zoom experience. A strong sense of urgency to transition online caused students to make quick decisions regarding unexpected changes. The small sample size allowed for directional results only, meaning that responses could only reveal generalized first impressions from a few students able to speak from little, if any, prior online learning experience. Future studies should widen the scope to students from other disciplines. A longitudinal study as students and faculty become more accustomed with the platform would be helpful to prepare for a post-Covid world. Hybrid learning techniques may become the norm in such a world. Garnering additional insights from this experience is essential to create future learning platforms for 21st century education.

RECOMMENDATIONS

Focus on Framing: Based on the findings, we've outlined key recommendations that if implemented, can elevate a student's learning experience. Frame the Zoom semester in a way that emphasizes contribution to the future. For example, "*The world is changing. Workplaces will most likely continue an online or hybrid model. As much as it is convenient, this is a good preservation for the new workforce.*" This is better preparing for the future.

Form Personal Connections: Make an extra effort to create mediated personal connections. For example, follow up on specific types of class behavior (like keeping the camera off) with a personal email asking why. Set up additional conversational class meetings throughout the semester separate from required courses.

Share Responsibility: This is a great opportunity to enable the students by involving them in more university wide efforts.

Think Creatively: ASE offered their students an array of extracurricular activities tailored for a "*Zoom ester.*" These include blurring of schedule restrictions, i.e. allowing students to take additional courses that were previously closed. Offer special hands-on workshops to develop workforce related skills and create small groups mentored by a faculty member.

Undergraduates (like the ones surveyed) may need extra support and assistance due their lack of experience with remote work, collaboration, and learning. Nonetheless, engagement online may decrease and keeping students engaged will be more difficult. Maintaining ongoing

student assessments, as well as periodic evaluations of the Zoom online learning experience will be an essential part of the teaching process.

Appendix A: Survey Questions (Study 2)

The survey was comprised of the following six open ended questions:
- What were the best aspects implemented in successful Zoom courses?
- What were the least successful aspects of the courses?
- What are the most substantial advantages to learning *via* zoom?
- What were the most substantial disadvantages to learning *via* Zoom?
- If hired as consultants, how would you recommend the university face Covid-19 challenges without disrupting the semester flow?
- What did you learn about yourself and your capabilities through this experience? (personal reflection question)

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